

## CLAIMS

What is claimed as new and desired to be protected by Letters Patent , as set forth in the appended claims is:

1. A mounting system for mounting a clay target thrower and gun rest to a vehicle trailer-hitch, comprising:
  - a) a hollow extender having a cylindrical hollow tubular construction, the hollow extender comprising a horizontal extender that extends outwardly from a first end into a vertical extender that extends vertically and has an upper end;
  - b) a platform assembly comprising a platform and platform post, said platform post defined by an upper post and a lower post, the upper post being secured to said platform, and wherein said lower post is releaseably connected to said upper end of said vertical extender, said platform having a connector means for engagement with either one of said clay target thrower and gun rest.
2. The mounting system according to claim 1 wherein said platform post is rotatable about a vertical axis and includes a locking mechanism for releaseably securing said platform post in a selected rotational orientation.
3. The mounting system of claim 2 wherein said upper platform post includes a threaded fastener opening and said locking mechanism comprises a slot in said vertical extender that is vertically coextensive with said fastener opening, and a threaded extender fastener that extends through said slot and is threadably engaged with said fastener opening, said threaded extender fastener having an abutment means for forcibly engaging said vertical extender when said threaded extender fastener is tightened.

4. The mounting system according to claim 3 wherein said locking mechanism prevents said platform post from rotating about said vertical axis when said threaded extender fastener is tightened.
5. The mounting system according to claim 3 wherein a limit of rotation of said platform post about said vertical axis is established by a range of motion of said threaded extender fastener within said slot.
6. The mounting system according to claim 5 wherein said slot is oriented such that a user activity is directed away from said vehicle.
7. The mounting system according to claim 3 wherein said extender fastener includes a handle portion to facilitate rotation of said extender fastener without use of additional tools.
8. The mounting system according to claim 1 further comprising a tension stabilizer with a first end coupled to said hollow extender and a second end coupled to said vehicle, wherein a tension applied to said stabilizer cable will inhibit vibrations imparted to said mounting system.
9. The mounting system according to claim 5 further wherein said tension stabilizer includes a cable with a first end coupled to said hollow extender and a second end coupled to a turnbuckle.
10. The mounting system according to claim 1 wherein said hollow extender is configured to allow a shooter to stand between said vertical extender and said vehicle while shooting a gun positioned in said gun rest.

11. The mounting system according to claim 10 wherein said horizontal member comprises a length of at least about thirty inches.

12. The mounting system according to claim 1 wherein said platform has a universal interface comprising at least five bolt holes selected from a group of bolt holes having the following respective center-line x,y coordinates:

- a) (0,0) mm;
- b) (-36,0) mm;
- c) (-19.5,19) mm;
- d) (0,52) mm;
- e) (22,69) mm;
- f) (31,42) mm;
- g) (26.5,-31) mm;
- h) (16.5, -59) mm;
- i) (-18,-62) mm;
- j) (-25,-38) mm; and
- k) (-31,-65) mm; wherein the center line coordinates of the plurality of holes are measured in millimeters from a common reference point on a Cartesian plane.

13. A gun mount for a pistol having a barrel and butt or a rifle having a barrel and a butt comprising:

- a) a forward cradle for supporting the barrel of said pistol or rifle; and
- b) a rear support that is configurable in at least a first mode and a second mode, the first mode comprising a rear cradle aligned with said forward cradle for supporting a rifle in the forward cradle and the rear cradle, and the second mode comprising a pistol mount platform for supporting said pistol butt while said pistol barrel is aligned in said forward cradle.

14. The gun mount according to claim 13 wherein said rear support comprises a rear support interface member configured to releasably engage a stationary member, and wherein a conversion of said rear support from the first mode to the second mode includes a withdrawal of the rear support from the stationary member, a rotation of the rear support member by at least ninety degrees, and a re-engagement of the rear-support with the stationary member.

15. The gun mount according to claim 13 wherein said rear-support interface member is a hollow guide and said rigid member is a hollow slide configured to slide into the hollow guide.

16. The gun mount according to claim 13 further comprising a gun mount base configured to couple with a mounting system extended from a trailer hitch on a vehicle.

17. The gun mount according to claim 13 comprising a threaded shaft coupled to said forward cradle, said gun mount further comprising a forward cradle height adjuster with a threaded eye for receiving said threaded shaft, such that rotation of said forward cradle height adjuster in a first direction will raise the forward cradle, and rotation of said forward cradle height adjuster in a second direction will lower the forward cradle.

18. The gun mount according to claim 13 further comprising a forward cradle lock for locking said forward cradle in a fixed position.

19. The gun mount according to claim 14 further comprising:

- a neck attached to said stationary member;
- a vertical guide for receiving said neck; and
- a movable ring coupled to said neck, said movable ring configured such that, in an unlocked mode, said movable ring can be moved up and down said neck, and

in the locked mode, said movable ring is locked in a fixed position on said neck, such that, in the locked mode, said movable ring regulates a depth to which said neck can be inserted into said vertical guide.

20. The gun mount according to claim 13 further comprising a tray configured to couple to said gun mount.

21. The gun mount according to claim 20 comprising a tray guide coupled to said gun mount and a tray slide coupled to the tray, wherein the tray couples to the pistol/rifle mount by sliding the tray slide into the tray guide.